DW-3 NO PICTURE TROUBLESHOOTING Page 1 of 10

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DW-3 CHASSIS PLASMA DEFECT TROUBLESHOOTING PROCEDURE.
The Below Information relates to investigations related to a Defective Plasma when there is no Picture at all.
Use this section for P42H401, P42H4011, P50H401, P50H4011, P55H4011 and P55H401 and P42T501, P50S601, P50V701, P50X901, P50T501, P55H401, P55T501 and P60X901 Plasma Television.

No Picture:
1. The Power Supply may not be producing the correct voltages.
2. The Digital Module (Digi-Main) may not be producing correct turn on commands (Power 1 and 2).
3. The Logic PWB may not be supplying the correct Vs/Va turn on commands (Vsago and Vcego).

The Panel can have a defect of two natures.
1. The panel is shorted.
2. The panel is defective, but not presenting a short.
3. Y-SUS and/or X-SUS may be defective (Shorted and or non-working).

> NOTE: It would be very helpful is you have one other document to accompany this one. (On our web site, see these models Things You Should Know section Power Supply Issues to download these documents.)
> **DW-3 Power Supply Explanation.pdf**
> http://www.hitachiserviceusa.com/service/ Seminars/Plasma-Web/DW3-Web/Fixes/ 00-Things-Known.htm

First monitor the front Power LED.
- Does it turn on, then go completely off? (Indicates Shutdown), Power Supply not running. (Shutdown usually indicates a Short.)
- Does it turn on and stay Green, but no picture. (No Shutdown),
- Power Supply running basic power supplies, but Vs/Va voltages not being produced.

PRELIMINARY OBSERVATION:
Next open the unit by removing the back cover. Check the following carefully by visual observation.

Power Supply PWB: Look very carefully around all mounting screws for cracks or PWB damage.

BUFFERS (Drivers) ON SDR Upper and/or Lower PWBs (50"~60")
Take a moment to carefully observe the Buffer "Snot" Chips
(Left Side black chips mounted on the SDR Upper and Lower PWBs).
Look very closely for burns and/or small holes in these chips.
If any defect is seen, the PWB is defective. Replace this PWB and the Y-SUS if PWB not upgraded. Replace only SDR if PWB is upgraded


HOLES
BUFFER   BUFFER
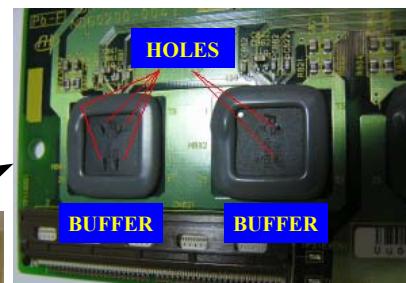
See Web site Things You Should Know Picture Issues Item 25 to determine if PWB is upgraded.

SDR U / L

COF (Chip on Film) from Panel to A-BUS (42")
Take a moment to carefully observe the COFs *Chip on Film* (Mounted on the flexible ribbon cables). Look very closely for burns and/or small holes in these chips.

Look very closely for any ribbon cable damage on the connections to the Panel itself from the A-BUS PWBs. If any defect is seen, the Panel is defective. (Note, some additional disassembly is required to see these COFs as they are on the underside of the ribbon cable coming from the panel to the A-BUS L, R and C PWBs.)

TO PANEL
COF   COF
TO A-BUS CONNECTOR
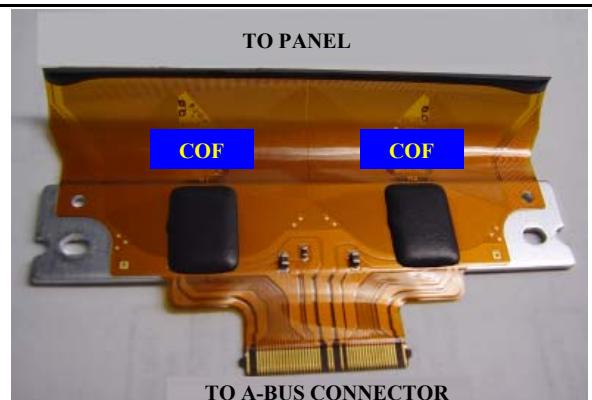
PWB QUICK CHECK:
Look for any burns, open fuses, etc... If burns found, then replace the PWB.
If fuses open, first check for low ohms condition before replacing the fuse an attempting to turn on the set.

VOLTAGE CHECKS: (When AC applied, then when the Power Button is pressed)
> **WHEN AC FIRST APPLIED:** When AC is first applied, the power supply should turn on and supply the following voltages for a little more than 2 minutes.
> - Stand-By voltages (SBY 5V), (SYB 3.3V on some models) and all voltages on the CNPPS connector? (This requires Power 1 and Power 2 commands being high coming from the Digi-Main PWB CN63). After approx. 2 minutes, (unless Quick Start is on), a relay click is heard and the CNPPS voltages turn off.
>   If Quick Start is on, the Power 1 and 2 commands remain high and all above voltages remain on.
> **WHEN THE POWER BUTTON IS PRESSED:** When the power button is pressed, the Logic PWB sends Vsago and Vcego commands to the power supply via the CN64 connector.
> - Note: There are two conditions the set can be in before the power button is pressed.
>   1. If Quick Start is off, the Power 1 and Power 2 commands are output from the Digi-Main PWB after a short internal self diagnostics is run.
>   2. If Quick Start is on, the above does not happen because the Power 1 and 2 commands are already high as stated in "When AC is First Applied".

Are you generating the Vs and Va voltages. (This requires the Vcego and Vsago commands being high coming from the Logic PWB CN68 connector).

42"
Va CN64 pin 1
Vs (85V) CN64 pin 7.
-Vs (-85.5) CN64 pin 9. (New for the DW-3 Chassis)
50"
Va (60V) CN64 pin 1
Vs (80V) CN64 pins 8 or 9 or 10.

> Note: There is a great deal of information on our web site about how to Force the Power Supply to produce all of the above voltages to check the Power Supply PWB and how this Power Supply generates voltages. (See this models Things You Should Know section Power Supply Issues for information.)
> http://www.hitachiserviceusa.com/service/Seminars/Plasma-Web/DW3-Web/Fixes/00-Things-Known.htm

IMPORTANT NOTE: FOR CONDITIONS 2 and 3 BELOW IN THE DW-3 SERIES:
Any Time Vs/Va voltages do not appear and a test is made, each time a new test is to be made,
> - *Press the Power Button and Turn the Plasma OFF.*
> - *Wait until you hear a "Click".*
> - *Unplug the CN68 connector.*
> - *Re-Plug the CN68 connector. If this is not done, the Turn On command for Vs/Va at Pin 7 and 8 of the CN68 connector will not happen.*
> - *Additional Note: If the Connector CN-68 is pulled and voltage readings are taken on the CN68 connector at the Power Supply, the STB 3.3V will be present at pin 3. There will be no voltage at pin 1.*

This answer to Are you Generating Vs and Va voltages will be;
1) Yes (Green Power LED will be always on)
2) Brief rise the collapse (Green Power LED will go Green then Go Off or may stay Green)
**3) No (Green Power LED will go Green then Go Off or may not go Green at all)**

There are three possible answers, see next page for Troubleshooting based on your response:

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If the answer is 1) Yes (Green Power LED will be always on)
This indicates your providing Vs and Va voltage to the X-SUS and Y-SUS PWBs. Use an Analog Scope. Look at the outputs from the X-SUS and X-BUS. Use the Top Pin of the connector going to the Panel, on either side. See if there is activity.

Top pin to Panel Y-SUS PWB 460V p/p

Top pin to Panel X-BUS PWB 29V p/p
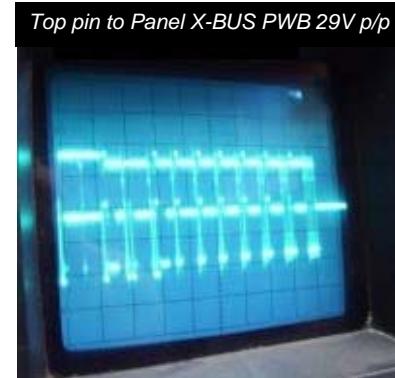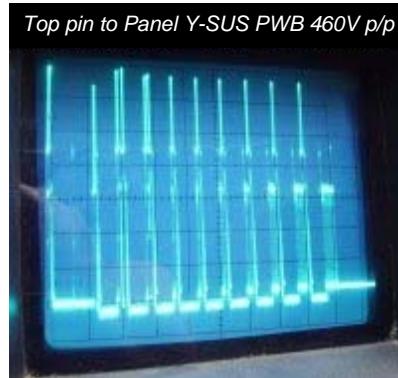
No Activity will usually indicate a defective PWB.
But if no activity is seen, before condemning the PWB,
pull the Ribbon cable from that PWB to the Panel and check again.
If activity returns, this will usually indicate a defective panel.
Remember: You have to pull all Ribbon Connectors before condemning the PWB.
If the Panel is defective with this process, in most cases evidence can be seen on the screen.
Example: If the top ribbon cable is pulled, the Top of the screen will be black, but the bottom will have raster.

If the answer is 2)
(Green Power LED will go Green the Go Off) Brief rise then collapse of the Vs and Va voltages.

This indicates a "Load" on the line.
Pull the CN-64 connector feeding Vs/Va voltages to the X-SUS.
Take an ohmage reading from the Va and Vs lines on each PWB.
This means you have to read the Connector on the Power Supply and the pulled connector going to the X-SUS.
See if there is a low value. Low value indicates a defective PWB.
Normal reading should be infinity. (Using the diode mode on the DV/Voltmeter, there will be a brief charge time, then infinity.) In other words, it may appear as a low ohm reading, but should rise to infinity or open. (Also not, if there is a charge on the line, the meter may show a low. You must Pull the CN68 connector and take a reading again).
The line should now be infinity when reading the Power supply pins for Va and Vs and when reading the connector going to the X-SUS PWB.)
If a Low is see on the connector, pull the CN32 Connector. (Bottom right hand plug on the Y-SUS PWB).

CN32 feeding Vs/Va voltage to the Y-SUS PWB.
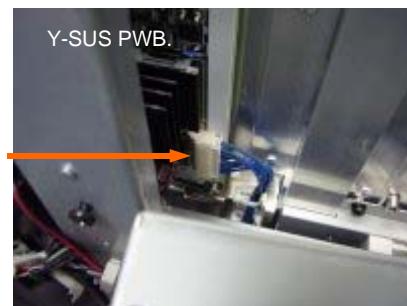
Y-SUS PWB.

AFTER THE CONNECTOR IS PULLED:

If the low disappears, then the Y-SUS or SDR PWBs are at fault. (See Note 1 below before condemning PWB).
If the low remains, then the X-SUS PWB is at fault. (See Note 1 below before condemning PWB).

NOTE 1: Pull all Ribbon connectors going to the Panel on-by-one while reading the Vs/Va pins.
If the low disappears, the panel is defective. (But, please check SDR buffers first.)
If the low remains, the Y-SUS and/or SDR PWBs are defective.
See the "PRELIMINARY OBSERVATION" on page 1 and see if the buffers are defective.

No Low Value found; Re-Visit "PRELIMINARY OBSERVATION" on page 1.
If no evidence found: Pull the Ribbon cables to the Panel.
Does Va / Vs voltage stay up?
Yes: Defective Panel
No: In this case neither PWB can be confirmed as the fault. Most often it will be the Y-SUS PWB…

> **Remember: You "Can" disconnect the SDR Upper or Lower or both from the Y-SUS PWB and test Vs/Va voltages. They will come on and stay up with these PWBs removed from the Y-SUS PWB.**

If the answer is 3) No Vs/Va activity.
This usually indicates either a dead load on the line or no Vsago / Vcego commands from the Logic PWB CN68.

First check:
Check the Va/Vs turn on commands.
Remember: The SBY 5V from CN63 pin 1 must be present before Vsago / Vcego lines can function.
When the Power Button is pressed, within moments, (Vcc5.1V) should come when the Vcego and Vsago
Commands go high. (See the next 4 pages for Power Supply pin descriptions and voltages).

See below figure for Pin locations on the Power Supply PWB

DW-3 POWER SUPPLY CONNECTOR IDENTIFICATION

CN64

10

Test Point CN99
Va pin 1
Vs pin 2   → CN99
Gnd pin 3

1

3

CN64 in the 42" has only 9 pins

15

CNPPS

1

6   1

CN61 AC In (All models but the 42")

CN61 AC In 42" Models

CN63   CN68

1   8   1   9

1

CN68 in the 60" has 11 pins

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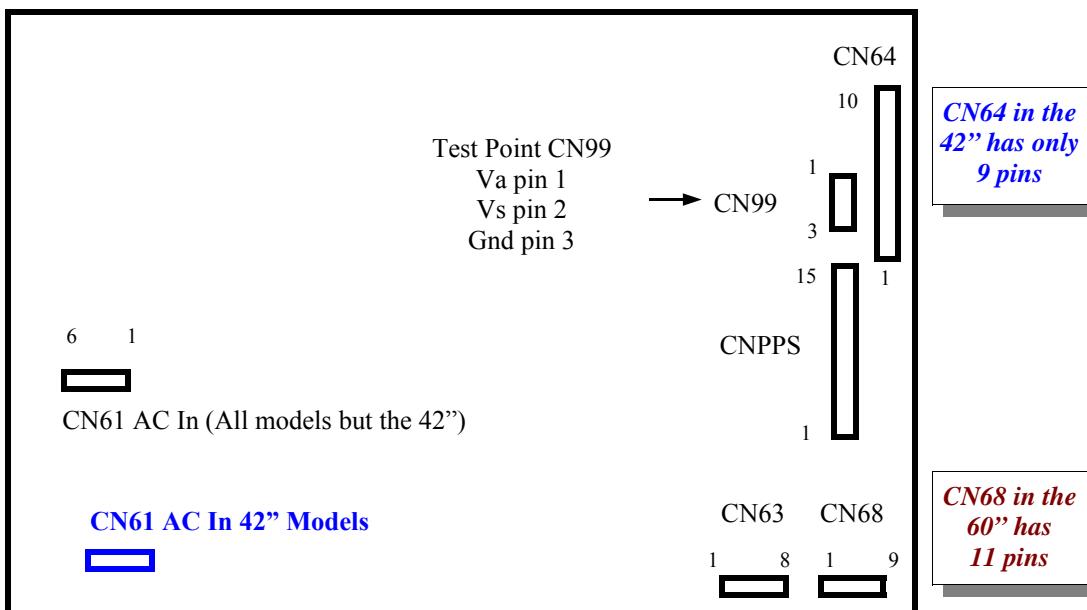
CN64 to X-SUS CN23

Pin	Label	SBY	RUN	Ohm	Out/In
1	Va	0V	65.2V	13.6K↑	—>
2	N.C.	n/a	n/a	n/a	n/a
3	Vcc	0V	5.1V	0.7K↑↑	—>
4	GND	n/a	n/a	n/a	n/a
5	GND	n/a	n/a	n/a	n/a
6	N.C.	n/a	n/a	n/a	n/a
7	+Vs	0V	85V	0.8M↑	—>
8	N.C.	n/a	n/a	n/a	n/a
9	-Vs	0V	-85.5V	0.8M↑	—>

CN63 to Digi-Main PPM1

Pin	Label	SBY	RUN	Ohm	Out/In
1	STBY+5.0V	5.2V	5.2V	1.9K↑	—>
2	GND	n/a	n/a	n/a	n/a
3	N.C.	0V	0V	2.6K↑↑	n/a
4	*PoWERoFF	0V	0V	2.8K	—>
5	ACCLoCK	3.3V	3.8V	11.1K	—>
6	PoWER1	0V	4.8V	9.6K↑	<—
7	PoWER2	0V	3.1V	10.5K	<—
8	N.C.	n/a	3.3V	9.1K	n/a

*CN63: Pin 4 at power off, momentary 3V pulse

CN68 to LOGIC CN6

Pin	Label	SBY	RUN	Ohm	Out/In
1	Vcc	0V	5.1V	0.7K↑↑	—>
2	GND	n/a	n/a	n/a	n/a
3	N.C.	0V	0V	2.6K↑↑	n/a
4	GND	n/a	n/a	n/a	n/a
5	Vra	0.6V	1.5V	5.5K	<—
6	Vrs	0.6V	1.5V	5.5K	<—
7	Vcego	0V	3.2V	6.3K	<—
8	Vsago	0V	3.2V	6.3K	<—
9	N.C.	n/a	n/a	15.3K	n/a

*Pin 3 CN63 Pin 1 CN68 are all tied together

> **Symbols in the Ohm Column:**
> ∞ Infinity/open,
> ↑ After charging/discharging,
> ↑↑ After charging/discharging slowly

CNPPS to Digi-Main PPM2

Pin	Label	SBY	RUN	Ohm	Out/In
1	+5.6V	0V	5.6V	1.3K↑	—>
2	+5.6V	0V	5.6V	1.3K↑	—>
3	+5.6V	0V	5.6V	1.3K↑	—>
4	GND	n/a	n/a	n/a	n/a
5	GND	n/a	n/a	n/a	n/a
6	GND	n/a	n/a	n/a	n/a
7	+10V	0V	10.5V	2.7K↑	—>
8	GND	n/a	n/a	n/a	n/a
9	+16V	0V	16V	12.3K↑	—>
10	GND	n/a	n/a	n/a	n/a
11	GND	n/a	n/a	n/a	n/a
12	GND	n/a	n/a	n/a	n/a
13	+12V	0V	10.5V	3.2K↑	—>
14	+12V	0V	10.5V	3.2K↑	—>
15	+12V	0V	10.5V	3.2K↑	—>

*Pins 13, 14 and 15 are all tied together

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CN64 to X-SUS CN23

Pin	Label	SBY	RUN	Ohm	Out/In
1	Va	0V	65.7V	13.6K↑	—>
2	N.C.	n/a	n/a	∞	n/a
3	Vcc	0V	5.1V	0.7K↑↑	—>
4	GND	n/a	n/a	n/a	n/a
5	GND	n/a	n/a	n/a	n/a
6	GND	n/a	n/a	n/a	n/a
7	N.C.	n/a	n/a	n/a	n/a
8	Vs	0V	88V	0.8M↑	—>
9	Vs	0V	88V	0.8M↑	—>
10	Vs	0V	88V	0.8M↑	—>

CN63 to Digi-Main PPM1

Pin	Label	SBY	RUN	Ohm	Out/In
1	STBY+5.0V	5.2V	5.2V	1.9K↑	—>
2	GND	n/a	n/a	n/a	n/a
3*	STBY+3.3V	3.3V	3.3V	2.6K↑↑	—>
4	*PoWERoFF	0V	0V	2.8K	—>
5	ACCLoCK	3.3V	3.8V	11.1K	—>
6	PoWER1	0V	4.8V	9.6K↑	<—
7	PoWER2	0V	3.1V	10.5K	<—
8	N.C.	n/a	3.3V	9.1K	n/a

*For 50" V/S/X Models CN63: Pin 3 is labeled N.C.

*CN63: Pin 4 at power off, momentary 3V pulse

CN68 to LOGIC CN6

Pin	Label	SBY	RUN	Ohm	Out/In
1	Vcc	0V	5.1V	0.7K↑↑	—>
2	GND	n/a	n/a	n/a	n/a
3*	Vpr2	3.3V	3.3V	2.6K↑↑	—>
4	GND	n/a	n/a	n/a	n/a
5*	N.C.	n/a	n/a	5.5K	n/a
6*	N.C.	n/a	n/a	5.5K	n/a
7	Vcego	0V	2.7V	6.3K	<—
8	Vsago	0V	2.7V	6.3K	<—
9*	PFCgo	n/a	n/a	15.3K	n/a

*For 50" V/S/X Models CN68:
Pin 3 is labeled N.C., Pin 5 is labeled Vra
Pin 6 is labeled Vrs, Pin 9 is labeled N.C.

Symbols in the Ohm Column:
∞ Infinity/open,
↑ After charging/discharging,
↑↑ After charging/discharging slowly

CNPPS to Digi-Main PPM2

Pin	Label	SBY	RUN	Ohm	Out/In
1	+5.6V	0V	5.6V	1.3K↑	—>
2	+5.6V	0V	5.6V	1.3K↑	—>
3	+5.6V	0V	5.6V	1.3K↑	—>
4	GND	n/a	n/a	n/a	n/a
5	GND	n/a	n/a	n/a	n/a
6	GND	n/a	n/a	n/a	n/a
7*	+10V	0V	10V	2.7K↑	—>
8	GND	n/a	n/a	n/a	n/a
9	+16V	0V	16V	12.3K↑	—>
10	GND	n/a	n/a	n/a	n/a
11	GND	n/a	n/a	n/a	n/a
12	GND	n/a	n/a	n/a	n/a
13*	+12V	0V	10.6V	3.2K↑	—>
14*	+12V	0V	10.6V	3.2K↑	—>
15*	+12V	0V	10.6V	3.2K↑	—>

*For 50" V/S/X Models CNPPS: Pin 7 is labeled 10.5V and Pin 13, 14 and 15 are labeled 15V

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CN64 to X-SUS CN23

Pin	Label	SBY	RUN	Ohm	Out/In
1	Va	0V	65.1V	13.6K↑	—>
2	N.C.	n/a	n/a	∞	n/a
3	Vcc	0V	5.1V	0.7K↑↑	—>
4	GND	n/a	n/a	n/a	n/a
5	GND	n/a	n/a	n/a	n/a
6	GND	n/a	n/a	n/a	n/a
7	N.C.	n/a	n/a	n/a	n/a
8	Vs	0V	88.1V	0.8M↑	—>
9	Vs	0V	88.1V	0.8M↑	—>
10	Vs	0V	88.1V	0.8M↑	—>

CN63 to Digi-Main PPM1

Pin	Label	SBY	RUN	Ohm	Out/In
1	STBY+5.0V	5.2V	5.2V	1.9K↑	—>
2	GND	n/a	n/a	n/a	n/a
3	N.C.	3.3V	3.3V	2.6K↑↑	n/a
4	*PoWERoFF	0V	0V	2.8K	—>
5	ACCLoCK	3.3V	3.8V	11.1K	—>
6	PoWER1	0V	4.8V	9.6K↑	<—
7	PoWER2	0V	3.1V	10.5K	<—
8	N.C.	n/a	3.3V	9.1K	n/a

*CN63: Pin 4 at power off, momentary 3V pulse

CN68 to LOGIC CN6

Pin	Label	SBY	RUN	Ohm	Out/In
1	Vcc	0V	5.1V	0.7K↑↑	—>
2	GND	n/a	n/a	n/a	n/a
3	N.C.	3.3V	3.3V	2.6K↑↑	n/a
4	GND	n/a	n/a	n/a	n/a
5	Vra	n/a	1.7V	5.5K	<—
6	Vrs	n/a	2.2V	5.5K	<—
7	Vcego	0V	2.7V	6.3K	<—
8	Vsago	0V	2.7V	6.3K	<—
9	N.C.	n/a	n/a	15.3K	n/a

*Pin 3 CN63 Pin 1 CN68 are all tied together

Symbols in the Ohm Column:
∞ Infinity/open,
↑ After charging/discharging,
↑↑ After charging/discharging slowly

CNPPS to Digi-Main PPM2

Pin	Label	SBY	RUN	Ohm	Out/In
1	+5.6V	0V	5.6V	1.3K↑	—>
2	+5.6V	0V	5.6V	1.3K↑	—>
3	+5.6V	0V	5.6V	1.3K↑	—>
4	GND	n/a	n/a	n/a	n/a
5	GND	n/a	n/a	n/a	n/a
6	GND	n/a	n/a	n/a	n/a
7	+10.5V	0V	10V	2.7K↑	—>
8	GND	n/a	n/a	n/a	n/a
9	+16V	0V	16V	12.3K↑	—>
10	GND	n/a	n/a	n/a	n/a
11	GND	n/a	n/a	n/a	n/a
12	GND	n/a	n/a	n/a	n/a
13	+15V	0V	10.6V	3.2K↑	—>
14	+15V	0V	10.6V	3.2K↑	—>
15	+15V	0V	10.6V	3.2K↑	—>

*Pins 13, 14 and 15 are all tied together

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CN64 to X-SUS CN23

Pin	Label	SBY	RUN	Ohm	Out/In
1	Va	0V	68V	13.6K↑	—>
2	Va	0V	68V	13.6K↑	—>
3	Vcc	0V	5.1V	0.7K↑↑	—>
4	Vcc	0V	5.1V	0.7K↑↑	—>
5	GND	n/a	n/a	n/a	n/a
6	GND	n/a	n/a	n/a	n/a
7	GND	n/a	n/a	n/a	n/a
8	N.C.	n/a	n/a	0.8M↑	n/a
9	Vs	0V	174V	0.8M↑	—>
10	Vs	0V	174V	0.8M↑	—>

CN63 to Digi-Main PPM1

Pin	Label	SBY	RUN	Ohm	Out/In
1	STBY+5.0V	5.2V	5.2V	1.9K↑	—>
2	GND	n/a	n/a	n/a	n/a
3	STBY+3.3V	3.3V	3.3V	2.6K↑↑	—>
4	*PoWERoFF	0V	0V	2.8K	—>
5	ACCLoCK	3.3V	3.8V	11.1K	—>
6	PoWER1	0V	4.8V	9.6K↑	<—
7	PoWER2	0V	3.1V	10.5K	<—
8	N.C.	n/a	3.3V	9.1K	n/a

*CN63: Pin 4 at power off, momentary 3V pulse

CN68 to LOGIC CN9

Pin	Label	SBY	RUN	Ohm	Out/In
1	N.C.	n/a	n/a	n/a	n/a
2	Vcego	0V	2.7V	6.3K	<—
3	Vsago	0V	2.7V	6.3K	<—
4	Vra	0V	2.2V	n/a	<—
5	Vrs	0V	1.6V	n/a	<—
6	GND	n/a	n/a	n/a	n/a
7	GND	n/a	n/a	n/a	n/a
8	GND	n/a	n/a	n/a	n/a
9	Vpr2	3.3V	3.3V	2.6K↑↑	—>
10	Vcc	0V	5.1V	0.7K↑↑	—>
11	Vcc	0V	5.1V	0.7K↑↑	—>

*Pin 3 & 4 CN63 Pin 10 & 11 CN68 are all
  tied together

Symbols in the Ohm Column:
∞ Infinity/open,
↑ After charging/discharging,
↑↑ After charging/discharging slowly

CNPPS to Digi-Main PPM2

Pin	Label	SBY	RUN	Ohm	Out/In
1	+5.6V	0V	5.6V	1.3K↑	—>
2	+5.6V	0V	5.6V	1.3K↑	—>
3	+5.6V	0V	5.6V	1.3K↑	—>
4	GND	n/a	n/a	n/a	n/a
5	GND	n/a	n/a	n/a	n/a
6	GND	n/a	n/a	n/a	n/a
7	+10V	0V	10V	2.7K↑	—>
8	GND	n/a	n/a	n/a	n/a
9	+16V	0V	16V	12.3K↑	—>
10	GND	n/a	n/a	n/a	n/a
11	GND	n/a	n/a	n/a	n/a
12	GND	n/a	n/a	n/a	n/a
13	+12V	0V	10.6V	3.2K↑	—>
14	+12V	0V	10.6V	3.2K↑	—>
15	+12V	0V	10.6V	3.2K↑	—>

*Pins 13, 14 and 15 are all tied together

TESTING THE Va/Vs TURN ON COMMANDS:
Press the Master Power (Vacation) Switch (on the bottom) to remove AC. (60" you must remove AC by pulling the AC plug itself). *Wait until you hear a "Click".*
Unplug the CN68 connector. Re-Plug the CN68 connector.

- *If this is not done, the Turn On command Vcego/Vsago at Pins 7 and 8 of the CN68 connector will not happen.*
- *This must be done every time a new check is made on the CN68 connector if Va/Vs voltages did not come up and stay up.*

Attach a DC voltmeter to the CN-68 connector Vcego and/or Vsago, (see preceding 4 pages for pin locations).
Press the Vacation Switch to re-apply AC power and wait for about 30 seconds for initialization.
Press the Power Button while watching the voltmeter.
1. **Normal: After several seconds, Vcego and Vsago pins should climb to 3.3V.**
2. **Trouble sensed: After several seconds, Vcego and Vsago pins should climb, then drop quickly to 0.2V.**
3. **Abnormal: No Activity at all.**

Your case will be either 2 or 3 above.

2. TROUBLE SENSED:
There is a Procedure for Forcing the Power Supply to Generate Voltages: Please make sure that the Power Supply is working correctly first. For Procedure: Please visit our web site:
(On our web site, see these models Things You Should Know section Power Supply Issues to download these documents.)
DW-3 Power Supply Explanation.pdf
http://www.hitachiserviceusa.com/service/Seminars/Plasma-Web/DW3-Web/Fixes/00-Things-Known.htm

If the Power Supplies is working OK, then go back to page 3 and see "If the Answer is 2". Follow the procedure for checking Y-SUS and X-SUS and the Panel listed above.

3. ABNORMAL: No Activity.
Pull the CN64 Connector.
Repeat: Testing the Vsago / Vcego Turn On Commands procedure.
If your condition changes to (2) above, then there is a load on the Va/Vs lines.
Go back to page 3 and see "If the Answer is 2". Follow the procedure for checking Y-SUS and X-SUS and the Panel listed above.

If your condition did not change, then the problem is usually related to the Logic PWB.
But before condemning the PWB, carefully examine the connector from CN68 to the Logic PWB CN6.
Look for cut, tear, and/or pinched shorting out the cable. Examine carefully the connector from the Digi-Main to the Logic PWB looking for the same problems listed above.
Confirm SBY +5V from pin 1 of CN63.

Note: There are no diagnostic LEDs on the Digi-Main PWB as there have been in the past.

The following are Key Points related to the DW-3 Power Supply;

1. Generates Stand-By 5V any time AC is applied to the Power Supply PWB, No matter if set on or off.

2. The Digi-Main PWB generates Power 1 and Power 2 commands on the CN63 connector when the set is in "Quick Start" (Instant On) even when the set is off (See 3 below) and when the set is turned on.

3. Generates All voltage on the CNPPS connector when the set is in "Quick Start" (Instant On) because of Power 1 and Power 2 are high.
   For the following reasons;
   - The TV turns on quickly
   - Data communications do not have to be re-initiated at turn on
   - The Sub-Digital PWB digital Tuner can be on

4. Power 1 and Power 2 CN63 connector <u>DOES NOT</u> turn on Vs and Va or Vcc +5.1V voltages, it only turns on CNPPS voltages.

5. Power 1 and Power 2 CN63 connector comes from the Digi-Main PWB PPM1 connector.

6. Vsago and Vcego CN68 connector <u>DOES</u> turn on Vs, Va and Vcc +5.1V voltages. (Also –Vs 42")

7. Vsago and Vcego CN68 connector comes from the Logic PWB CN6 connector.

8. The CN68 connector must be unplugged and then reinserted to reset the Power Supply if Vs/Va did not come up for some reason.
   If this is not done, Vsago or Vcego will never attempt to turn on Vs/Va again.
   (If AC is remove, this will reset the Power Supply, but it takes over 5 minutes).

9. The Power Supply can be forced On (2 procedures) to test all power supplies.
   - First: One Procedure to test all voltage but Vs, Va and Vcc +5.1V. (Also –Vs 42")
   - Second: One Procedure to test Vs, Va and Vcc +5.1V voltages. (This procedure requires the First process to be active.) (Also –Vs 42")

10. Vcc (5.1V) CN64 pin 3 and CN68 pin 1 is generated on the Power Supply and is an output voltage from the Power Supply, not an input.

11. **(Series 1 Models)** CNPPS Pins 7, 13, 14, 15 are all tied together (speaking of solder path), they are the same Voltage.
    (Series 2 Models) CNPPS Pins 13, 14, 15 are all tied together (speaking of solder path), they are the same Voltage.

12. Vcc (5.1V), CN63 Pin 3 and CN68 Pin 9 are tied together (speaking of solder path). **(Series 1 Models)**

13. Power 3 is not used, (CN63 connector).

14. Vra / Vrs CN68 connector is used, but there is no technical explanation Series 2 Models. (Not used in Series 1 Models)

15. The Relays RL001 and RL002 turn on any time AC is applied to the Power Supply PWB with the following conditions.
    - If "Quick Start" is off, both relays turn off after a little more than 2 minutes when AC first applied.
    - If "Quick Start' is on, both relays stay on.
    - When the set is turned on, both relays turn on.